

IN THE CLAIMS

✓ Please cancel claims 1-5 and 8-10, without prejudice.

REMARKS

Claims 15, 16 and 17 were finally rejected under 35 U.S.C. §103 as being unpatentable over Hayata or Applicants' disclosure (Fig. 15) in view with Heidemann, U.S. Patent No. 5,335,109.

FINALITY OF THE REJECTION

Applicants request the Examiner to withdraw the finality of the Office Action issued on August 16, 1999 because the Examiner used a new reference to reject the claims. Although the Examiner states the amendment necessitated the new ground of rejection, the new rejection based on Heidemann, U.S. Patent No. 5,335,109, does not follow the claim amendments. Therefore, the final rejection should be withdrawn.

REJECTIONS UNDER 35 U.S.C. §103

Applicant respectfully disagrees with the Examiner that the prior art, either alone or in combination, teaches or suggests the claimed invention. In this case, the present invention recited in claims 15, 16 and 17 is designed upon a configuration of:

- (1.) an input optical signal divided by an optical coupler;
- (2.) an optical amplifier amplifies one optical signal divided by the optical coupler;
- (3.) a filter filters the other optical signal divided by the optical coupler; and
- (4.) a photo diode receives the optical signal filtered through the optical filter.

To the contrary, Fig. 15 of the present application has the configuration of:

- (1.) an input optical signal is divided by an optical coupler;
- (2.) an optical amplifier amplifies one optical signal divided by the optical coupler; and
- (3.) a photo diode receives the other optical signal divided by the optical coupler.

Thus, Fig. 15 fails to teach a filtering stage when compared to the presently claimed invention.

As discussed previously, the Examiner indicates that Hayata discloses an optical amplifier with an input terminal and optical coupler, a detector, and an optical fiber amplifier. In Hayata, however, an optical fiber amplifier is provided between an optical signal input terminal and wavelength branch unit 6, the wavelength branch unit 6 is used to separate an optical signal amplified by an optical fiber amplifier from an exciting light sent through another optical fiber amplifier provided at the next stage.

The wavelength branch unit 6 in Hayata is not an optical coupler which divides an optical input signal to first and second optical signals, as defined in claims 15 and 16. Further, Hayata neither discloses nor suggests that an optical filter could be provided between wavelength branch unit 6 and photodetector 7. Thus, Hayata does not divide an optical input signal.

In regard to the Heidemann reference, this teaching discloses:

- (1.) an input optical signal filtered by filter 6a;
- (2.) an erbium-doped optical fiber which amplifies an optical signal filtered through filter 6a;

(3.) filter 6b filters an optical signal amplified by erbium-doped optical fiber;  
and

(4.) photo diode which receives all the optical signals filtered through filter 6b.  
Thus, Heidemann does not teach dividing a signal and either amplifying or filtering the signal when compared to the present invention.

Thus, a combination of Fig. 15 with the Heidemann reference would be inoperative. In Fig. 15 of the present application, a photo diode monitors an optical signal which is not amplified, and therefore, the photo diode is provided for a different purpose or in a different position than that in Heidemann. In Heidemann, a photo diode neither detects nor monitors a pre-amplified optical signal. From the above configuration of Heidemann, it should be considered that the photo diode has the function such that:

- (1.) the photo diode receives all optical signals flowing through an optical transmission line, but not any part of the optical signals; and
- (2.) the photo diode receives amplified optical signals, but not any part of pre-amplified optical signals.

Therefore, it would not be possible to apply the photo diode of Heidemann in Fig. 15 of the present application, because the photo diode in Heidemann in Fig. 15 of the present application respectively have different purposes and are provided in different positions in configurations. Thus, structural limitations, such as current and power ratings would differ accordingly.

In regard to the Hayata reference, no combination of the Hayata reference and the Heidemann reference would teach the presently claimed invention for the reasons

discussed above. Specifically, the Hayata reference does not divide an optical input signal.

Accordingly, as the cited references fail to teach or suggest the claimed invention, it is respectfully requested that the Examiner withdraw all rejections under 35 U.S.C. §103.

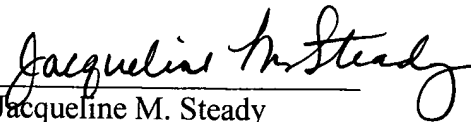
### **CLOSING**

An earnest effort has been made to be fully responsive to the Examiner's objections. In view of the above amendments and remarks, it is believed that independent claim 15 and 16 are in condition for allowance as well as those claims dependent therefrom. Passage of this case to allowance is earnestly solicited.

However, if for any reason the Examiner should consider this application not to be in condition for allowance, he is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper, not fully covered by an enclosed check, may be charged on Deposit Account 08-1634.

Respectfully submitted,

  
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